NOTES

Name: _____ Date: 10/1/18

Science 7

Motion

Aim: I can describe motion.

Do Now:

_____

_____

Notes:

Motion:

- A Change in position relative to or measured from a Stationary reference point (frame of reference).

How can motion be described?

- Speed: how fast something moves; the rate of motion.
- The amount of time it takes for a change in position to take place.

Instantaneous Speed:

- The rate of motion at any given instant.

Constant Speed:

- A speed that does not change. ✓ Cruise control
- Most things are only traveling for a constant speed for a short period of time.

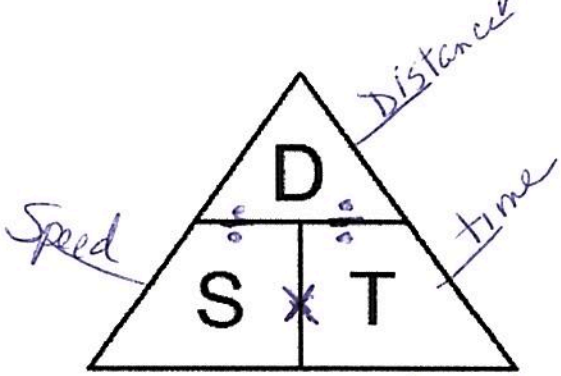
Average Speed:

- The total distance traveled divided by the total time of travel.

Calculating Speed

- Express the relationship between distance, time and speed.

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$



Top to bottom – you divide
Side by side – you multiply

Practice Problems:

Neighbor's Speed

1. Your neighbor says she can skate at a speed of 4 meters/second. To see if you can skate faster, you have her time you as you skate as fast as you can for 100 meters. Your time is 20 seconds. Who skates faster? I skate faster

T You D You

Formula	$S = \frac{d}{t}$
Substitution	$S = \frac{100\ m}{20\ s}$
Final Answer with Units	$S = 5$ meters/second

S

2. Sound travels at a speed of 330 meters/second. If a lightning bolt strikes the ground 1,000 m away from you, how long will it take for the sound to reach you?

d T = ?

Formula	$T = \frac{D}{S}$
Substitution	$T = \frac{1000\ m}{330\ m/s}$
Final Answer with Units	$T = 3.0\ s$

* Units *

Time - seconds
Distance - meters
Speed - meters/second